



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	ABNORMAL

Machine Id
17775
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0904485	WC0795530	---
Sample Date		Client Info		18 Mar 2024	28 Sep 2023	---
Machine Age	mls	Client Info		171707	161820	---
Oil Age	mls	Client Info		10000	0	---
Filter Age	mls	Client Info		10000	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				ABNORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	20	19	---
Chromium	ppm	ASTM D5185m	>20	<1	<1	---
Nickel	ppm	ASTM D5185m	>4	0	0	---
Titanium	ppm	ASTM D5185m		0	0	---
Silver	ppm	ASTM D5185m	>3	0	0	---
Aluminum	ppm	ASTM D5185m	>20	9	7	---
Lead	ppm	ASTM D5185m	>40	<1	0	---
Copper	ppm	ASTM D5185m	>330	<1	<1	---
Tin	ppm	ASTM D5185m	>15	0	<1	---
Vanadium	ppm	ASTM D5185m		<1	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

Light fuel dilution occurring.

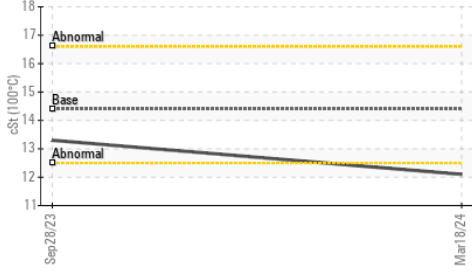
Silicon	ppm	ASTM D5185m	>25	4	6	---
Potassium	ppm	ASTM D5185m	>20	1	3	---
Fuel	%	ASTM D3524	>5	▲ 3.9	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.6	0.6	---
Nitration	Abs/cm	*ASTM D7624	>20	9.2	9.1	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.1	22.7	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	---

FLUID CONDITION

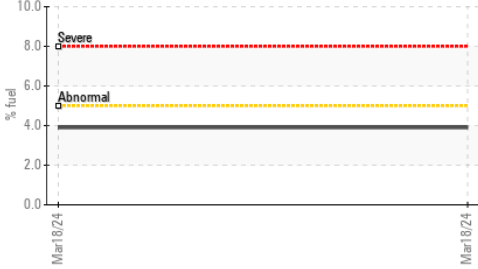
Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m	>158	1	3	---
Boron	ppm	ASTM D5185m	250	5	35	---
Barium	ppm	ASTM D5185m	10	<1	0	---
Molybdenum	ppm	ASTM D5185m	100	65	37	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m	450	928	508	---
Calcium	ppm	ASTM D5185m	3000	1199	1588	---
Phosphorus	ppm	ASTM D5185m	1150	1000	754	---
Zinc	ppm	ASTM D5185m	1350	1179	888	---
Sulfur	ppm	ASTM D5185m	4250	3463	2390	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.9	21.8	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	9.0	9.9	---
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 12.1	13.3	---

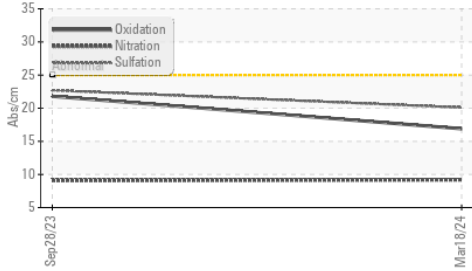
▲ Viscosity @ 100°C



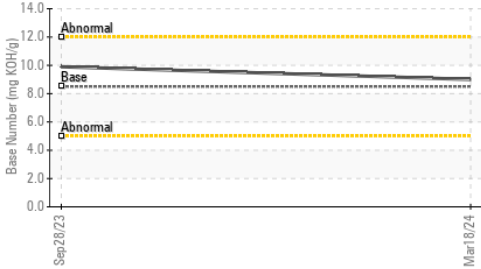
▲ Fuel Dilution



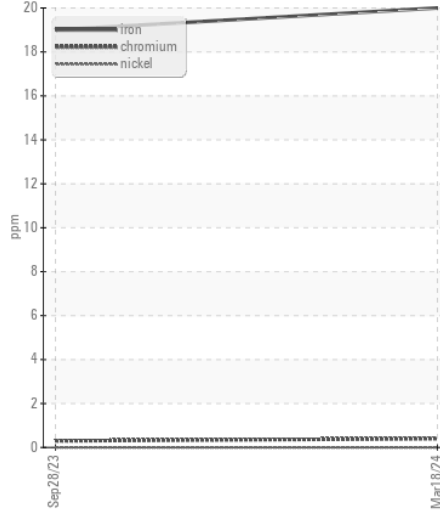
FT-IR (Direct Trend)



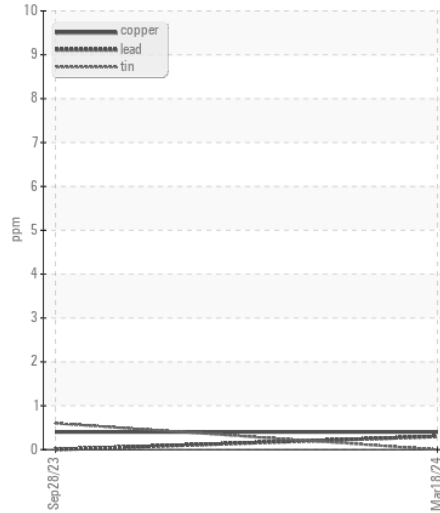
Base Number



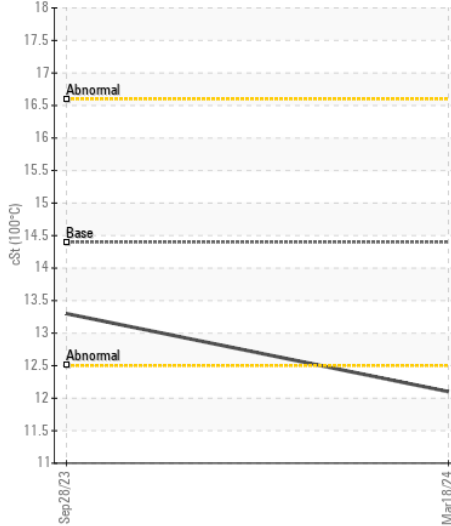
Ferrous Alloys



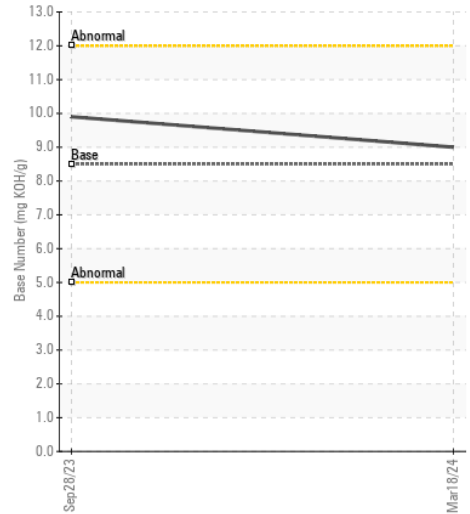
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0904485

Lab Number : 06148008

Unique Number : 10978086

Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 12 Apr 2024

Tested : 17 Apr 2024

Diagnosed : 17 Apr 2024 - Jonathan Hester

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To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)